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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/649,269	08/27/2003	Sudhir G. Rao		6434

49056 7590 10/12/2006

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EXAMINER
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WILSON, YOLANDA L

ART UNIT	PAPER NUMBER
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2113

DATE MAILED: 10/12/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

**Office Action Summary**

Application No.

10/649,269

Applicant(s)

RAO ET AL.

Examiner

Yolanda L. Wilson

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --  
**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 01 August 2006.  
2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.  
3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1-31 is/are pending in the application.  
4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.  
5) ☒ Claim(s) 1-16 and 23-27 is/are allowed.  
6) ☒ Claim(s) 17-22, 28-31 is/are rejected.  
7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.  
8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.  
10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).  
11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).  
a) ☐ All b) ☐ Some \* c) ☐ None of:  
1. ☐ Certified copies of the priority documents have been received.  
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.  
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).  
\* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- 1) ☐ Notice of References Cited (PTO-892)  
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)  
3) ☒ Information Disclosure Statement(s) (PTO/SB/08)  
Paper No(s)/Mail Date 08/01/06  
4) ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date. \_\_\_\_\_  
5) ☐ Notice of Informal Patent Application  
6) ☐ Other: \_\_\_\_\_

## **DETAILED ACTION**

### ***Claim Rejections - 35 USC § 101***

1. 35 U.S.C. 101 reads as follows:

Whoever invents or discovers any new and useful process, machine, manufacture, or composition of matter, or any new and useful improvement thereof, may obtain a patent therefor, subject to the conditions and requirements of this title.

2. Claims 17-22 are rejected under 35 U.S.C. 101 because the claimed invention is directed to non-statutory subject matter. Claim 17 recites 'an article comprising: a computer-readable medium:...'. Thus, these claims merely recite a program per se, which is not permissible under the Examination Guidelines for Computers - Related Inventions. The examiner suggests the following as a way to correct those claims: "An article of manufacture comprising: a computer-readable medium having computer-readable instruction stored thereon executable by a processor comprising: ..." Claims 18-22 are also rejected because they are dependent on claim 31.

### ***Allowable Subject Matter***

3. The following is a statement of reasons for the indication of allowable subject matter: Claims 1-8 are indicated as being allowable because of the following limitations: issuing an operating system ICMP echo to peer nodes in said cluster and to said gateway through said network interface in response to a heartbeat loss detection. Claims 9-16 are indicated as being allowable because of the following limitations: an operating system ICMP echo adapted to be issued to peer nodes in a cluster and to said gateway through said network interface in response to a heartbeat loss detection. Claims 23-27 issuing an operating

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system ICMP echo to said peer nodes and a gateway through a network interface in response to a heartbeat loss.

***Claim Rejections - 35 USC § 103***

4. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

5. Claim 28 is rejected under 35 U.S.C. 103(a) as being unpatentable over Carter et al. (USPN 5909540A) in view of Yeager. As per claim 28, Carter et al. discloses determining a heartbeat loss in a cluster; validating said heartbeat loss; and localizing said loss in column 31, lines 10-29.

Carter et al. fails to explicitly state configured with a gateway for a network interface.

Yeager discloses this limitation on page 20, paragraph 0255 and page 41, paragraph 0528.

Accordingly, it would have been obvious to one of ordinary skill in the art at the time the invention was made to have configured with a gateway for a network interface. A person of ordinary skill in the art would have been motivated to have configured with a gateway for a network interface because gateways are used to connect one cluster of nodes with another network.

6. Claims 29-31 are rejected under 35 U.S.C. 103(a) as being unpatentable over Carter et al. in view of Yeager in further view of Langfahl, Jr. As per claim

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29, Carter et al. and Yeager fail to explicitly state wherein the step of validating said heartbeat loss includes sending an ICMP echo to peer nodes and said gateway through a network interface.

Langfahl, Jr. discloses this limitation in column 3, lines 15-30 and column 5, lines 13-32.

Accordingly, it would have been obvious to one of ordinary skill in the art at the time the invention was made to have wherein the step of validating said heartbeat loss includes sending an ICMP echo to peer nodes and said gateway through a network interface. A person of ordinary skill in the art would have been motivated to have wherein the step of validating said heartbeat loss includes sending an ICMP echo to peer nodes and said gateway through a network interface because ICMP echo requests are used to indicate whether a network computer or node is functioning correctly in order to give an indication of where a problem lies within the network. This is disclosed in column 4, lines 28-33 and column 5, lines 6-12.

7. As per claim 30, Carter et al. and Yeager fail to explicitly state wherein the step of localizing said loss includes analyzing a response echo.

Langfahl, Jr. discloses this limitation in column 5, lines 13-32.

Accordingly, it would have been obvious to one of ordinary skill in the art at the time the invention was made to have wherein the step of localizing said loss includes analyzing a response echo. A person of ordinary skill in the art would have been motivated to have wherein the step of localizing said loss includes analyzing a response echo because ICMP echo requests indicate the success or

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failure of whether or not a network computer/node is functioning correctly when sent to a specific computer or node. This is disclosed in column 4, lines 28-33 and column 5, lines 6-12.

8. As per claim 31, Carter et al. and Yeager fail to explicitly state determining a best path of connectivity through a comparison of echo responses.

Langfahl, Jr. discloses this limitation in column 3, lines 15-30 and column 5, lines 13-32.

Accordingly, it would have been obvious to one of ordinary skill in the art at the time the invention was made to have determining a best path of connectivity through a comparison of echo responses. A person of ordinary skill in the art would have been motivated to have determining a best path of connectivity through a comparison of echo responses because the ICMP request and responses indicate by way of a network map which paths are functioning and which paths are not functioning.

### ***Response to Arguments***

9. Applicant's arguments filed 08/01/06 have been fully considered but they are not persuasive. Applicant argues on page 16, under Section VI, "there is no teaching, suggestion, or motivation...to employ a gateway therein".

Examiner respectfully disagrees. The motivation comes from the system disclosed in column 6, lines 5-11 being network nodes within a network system which can be geographically dispersed or located on distinct networks. With this motivation of the nodes being on different networks, it would be obvious for a

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gateway to be used to connect the different node groupings, disclosed in column 6, lines 12-19, together by a gateway.

As for Applicant's arguments on page 17-18, under Section VI, please see column 31, lines 10-29.

As for Applicant's arguments on page 18, under Section VII, please see the arguments for claim 28 discussed above.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Yolanda L. Wilson whose telephone number is (571) 272-3653. The examiner can normally be reached on M-F (7:30-4:00).

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Robert Beausoliel can be reached on (571) 272-3645. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.



Yolanda L Wilson  
Examiner  
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